May 19, 2000

Reply to
Attn of: ECL-112

ACTION MEMORANDUM/ENFORCEMENT

SUBJECT: Request for Approval of a Final Non-Time Critical Removal Action to Provide a Permanent Source of Drinking Water for the Users of the Skyline Water System, Part of the Moses Lake Wellfield Contamination Superfund Site in Grant County, Washington

FROM: Lynda E. Priddy, Remedial Project Manager

TO: Michelle Pirzadeh, Associate Director
Environmental Cleanup Office

THROUGH: David Croxton, Unit Chief
Superfund Site Management Section 1

I. Purpose

The purpose of this memorandum is to request approval of a final non-time critical (NTC) removal action at the Skyline portion of the Moses Lake Wellfield Superfund Site (Site) in Moses Lake, Grant County, Washington. The objective of the NTC removal action is to install a new well as a permanent source of drinking water. This action is expected to be the last action necessary to protect users of the Skyline water system from exposures of trichloroethylene (TCE) above the maximum contaminant level (MCL) of 5.0 ppb in drinking water. Currently, users of the TCE-contaminated drinking water system are receiving bottled water as their source of drinking water. The bottled water is being provided by potentially responsible parties (PRPs) as a time-critical removal (TCR) action. EPA approved the TCR action on March 4, 1994. The Port of Moses Lake (Port) had provided the bottled water until June 31, 1999 and, on July 1,

1999, the U.S. Army Corp of Engineers (USACE) took over the provision of bottled water to users of the Skyline water system. The provision of bottled water will continue until the new well is operational.

II. Skyline Conditions and Background

A. Site Description

1. Removal Site Evaluation

During 1988 and 1989, the State of Washington's Department of Ecology (Ecology) and Department of Social and Health Services (DSHS) sampled the Moses Lake municipal water system and several nearby small water system wells including the Skyline Water Company wells. TCE levels in excess of the Maximum Contaminant Level (MCL) of 5 ppb were found in both of the Skyline Water Company wells. TCE is a volatile organic compound (VOC) which has been commonly used as a degreasing agent. Exposure to TCE at high levels has been shown to cause adverse health effects in humans. The CERCLIS ID number for this Site is WAD 988466355.

The Skyline Water Company is privately owned and operated by Greg Vehrs, a resident of Moses Lake.

2. Physical Location

The Site consists of a groundwater plume of TCE in the general vicinity of the former Larson Air Force Base (fLAFB), now primarily the Grant County Municipal Airport owned and operated by the Port. The fLAFB encompassed an area of about 15 square miles and presently includes an airport, commercial facilities, and residences. The plume underlies the southern portion of fLAFB, and extends past the fLAFB boundaries to the south and west. The groundwater plume, area of TCE MCL exceedence, is approximately 1 mile wide, 3 miles long, and 100-300 feet deep. The Skyline wells are located in the southern portion of the plume (Attachment 1).

The surrounding areas north and east of the airport are open land currently used for agriculture and grazing, although these areas are zoned for industrial use. Moses Lake itself is located west of the Site and is used for recreational purposes including boating and fishing. Moses Lake also supplies irrigation water for agricultural purposes. Land use south of the fLAFB consists of primarily residential subdivisions, including the Skyline community.

3. Site Characteristics

Currently, the Port of Moses Lake (Port) owns the majority of the former LAFB property, operating a large portion of it as the Grant County Municipal Airport. The Port also leases space to a variety of commercial enterprises, some of which make direct use of the airport facilities. Other principal land owners include the Boeing Corporation, CMC Heartland, the Washington State Board for Community College Education, and the Housing Authority of Grant County. EPA has named three potentially responsible parties (PRPs) for the Moses Lake Superfund Site as a whole. The named PRPs are USACE, The Boeing Company, and the Port of Moses Lake.

4. Release or Threatened Release Into The Environment Of A Hazardous Substance, Or Pollutant, or Contaminant

The Skyline Water Company operates two wells providing drinking water to approximately 90 homes of about 325 people in the Skyline area. TCE concentrations which exceeded the MCL of 5.0 ppb for TCE have been identified in Skyline Well #1 (westerly well) and #2 (easterly well) at maximum concentrations of 32.2 ug/L and 11.5 ug/L, respectively. No other VOCs have been detected in concentrations above MCLs in these wells.

Skyline Well #1 pumps year round at a rate of approximately 180 gallons per minute (gpm), and it draws its water from a depth of 240 feet below the ground surface. Skyline Well #2 is less than a mile away from Well #1 and is typically operated on a seasonal basis from May through September. It draws water from 230 feet below the ground surface and has a maximum pumping capacity of approximately 300 gpm.

No remedial actions have taken place to date at the Skyline water system. As noted above, the Port supplied bottled water to Skyline users from March 1994 to July 1999 under an agreement with EPA. The USACE has supplied bottled water since July 1999.

The city of Moses Lake operated six large wells that were previously part of the former LAFB drinking water system. Several of which are located within the contaminated groundwater plume. These City wells supply drinking water to about 5000 people. In 1988, TCE was discovered in three of six city of Moses

Lake wells at concentrations above the MCL. The City cased and sealed two of the contaminated wells so that they now draw drinking water only from the deeper c-Basalt aquifer that appears to be uncontaminated with TCE. The third contaminated well, ML-22, was closed. Previously, water from the contaminated shallow aquifer was apparently being pulled into these wells.

5. NPL Status

The site was proposed to the National Priorities List (NPL) in July 1991, and was listed on the NPL in October 1992. The Remedial Investigation and Feasibility Study is ongoing and is expected to be completed in late 2001.

6. Maps

The attached map (Attachment 1) shows the general location of the Site, the approximate location of the TCE plume based on available sampling data and the Skyline wells.

B. Other Actions to Date

1. Previous Actions

During 1988 and 1989, the Washington Department of Ecology (Ecology) and the Washington Department of Social and Health Sciences (DSHS), currently known as the Washington Department of Health (DOH), conducted sampling of wells in the fLAFB area. That round of sampling provided a general picture of the extent of TCE contamination.

In December 1990, EPA finished a Site Inspection Report. The inspection uncovered a number of potential sources and disposal sites for waste fluids which were at or near the fLAFB. The investigation found twelve drinking water supply wells to have detectable quantities of TCE.

The city of Moses Lake contracted with Golder Associates to review existing groundwater data and to study alternative water sources for the City's water supply (the fLAFB system which the City now operates). That assessment was completed in October 1991. Consequently, the City, without direction or oversight by EPA, sealed and cased off the upper, contaminated aquifer for wells ML-23 and ML-28. The other contaminated City well, ML-22, was closed.

Outside of a formal agreement with EPA, USACE conducted its own Phase I Remedial Investigation which was completed in 1993.

a. Removal Action AOC

In November 1993, the Port and Norm Vehrs signed an initial Administrative Order on Consent (AOC) with EPA to perform an interim removal action at the Skyline drinking water system. The work to be performed under the AOC consisted of providing at-the-tap carbon filtration units to Skyline users. Following objections raised by the DOH, a second AOC was entered into by the Port in March 1994 (Norm Vehrs declined to participate in the second AOC). The second AOC called for the provision of bottled water to Skyline users as an interim removal action, and for the Port to negotiate in good faith with EPA towards the implementation of the final removal action (the final removal action had not been selected at that time). The Port continued to provide bottled water to Skyline until July 1999 when EPA, at the Port's request, agreed that the Port had fulfilled its bottled water obligation. On July 1, 1999, USACE took over the provision of bottled water.

b. New Well Removal Action

USACE prepared an Engineering Evaluation/Cost Analysis (EE/CA) to evaluate permanent removal alternatives for Skyline. The USACE completed the EE/CA on October 7, 1993. The EE/CA characterized the Site, identified removal action objectives, described five removal action alternatives, contained analyses of these alternatives, and described a proposed final removal action which included hooking up the Skyline water system to the Basin Water Sources, Inc. (Basin) system. A contingency alternative of drilling a new, deeper well was also selected in the event that contractual and legal issues rendered the Basin hookup unlikely. Later, EPA determined that the Basin Water System lacked sufficient capacity to supply Skyline. On November 1993, EPA approved an Action Memorandum selecting a new well as the NTC removal for the Skyline Water System. EPA and the Port, on March 1994, entered into a Consent Decree (CD) which required the Port to construct a replacement well for the Skyline community.

During the public comment period on the CD, The Boeing Company commented that a settlement with the Port was premature and unfair. In April 1999, that consent decree was withdrawn by the U.S.

Department of Justice. As a result, this forced EPA to reevaluate the EE/CA alternatives based on additional information from the field sampling and community concerns, which led to the revised EE/CA and this Action Memorandum.

c. EPA and USACE Interagency Agreement

On March 31, 1999, EPA and USACE approved an Interagency Agreement (IAG) that included removal provisions whereby USACE agreed to perform removal actions as required by EPA. However, at that

time the USACE did not agree to continue the supply of bottled water to Skyline.

d. City Water HookupTime-Critical Action Memo

On April 6, 1999, EPA approved an Action Memorandum which required USACE, as a time-critical removal action (TCRA) to design and construct an intertie between Moses Lake city water and the Skyline system. (Initially, the action was intended to be EPA-lead; however, once the IAG was signed USACE agreed to perform the TCRA.) EPA approved the TCRA Action Memorandum because: (1) the consent decree for a permanent remedy for the Skyline system had been withdrawn and a more reliable solution was still needed; (2) the Port wanted to discontinue the supply of bottled water which was needed to continue to meet the requirement that Skyline residents can not drink water which exceeds the MCL; (3) the intertie to city water was supposed to be implemented quickly because the Skyline community had been on bottled water for 5 years, much longer than intended and not all residents were using bottled water; (4) DOH had determined that provision of bottled water would not sufficiently mitigate all TCE exposures (such as dermal and inhalation); and (5) EPA required more time to revise and finalize the NTC removal and EE/CA, which would choose a permanent solution for Skyline.

e. Modification of the Time-Critical Removal Action

On February 15, 2000, EPA approved an Action Memorandum which modified its April 1999 Memorandum approving a hookup as a TCRA for the Skyline water system. The reasons for modification of the April 1999 TCRA decision are described in its February 2000 Action Memorandum. The TCRA had been modified to direct the USACE to continue their supply of bottled water to Skyline residents but to discontinue work to install an intertie to the city water supply as a TCRA. This modification was appropriate and protective because the risks which existed in April 1999, which necessitated the TCRA, had been mitigated by: (1) the discontinued use of the easterly Skyline well; and (2) the continuation of the bottled water program to the Skyline community by the USACE on July 1, 2000. Use of bottled water for drinking water and use of the well water from the westerly well for other potable water uses,

at current concentrations, will sufficiently mitigate risk to public health and the environment until a final solution for the TCE contamination in both the east and west wells at Skyline is implemented.

2. Current Actions

On April 13, 2000, EPA opened a 30-day public comment on a revised EE/CA (Attachment 2) for a final NTC removal action for the Skyline water system. Section V of this Memorandum summarizes the EE/CA evaluation. This EE/CA evaluated seven removal alternatives and proposed a new well as a final NTC removal action for public comment. The public meeting was held on May 10, 2000. EPA received no significant adverse comments on the EE/CA either during the public comment period or the public meeting. EPA received 35 written comments from the community supporting the implementation of a new well. Comments also from the Department of Ecology, DOH and USACE support the selection of a new well as a final NTC removal action. The Response to Comment document is included as Attachment 3.

C. State and Local Authorities' Role

1. State And Local Actions to Date

In October 1994, EPA and Ecology entered into an agreement which outlined a more complete division of labor for oversight activities at NPL sites. EPA is the lead agency for activities at the Moses Lake Superfund Site. As agreed in the October agreement, EPA provided an RI/FS milestone briefing to Ecology and Ecology had no significant adverse comments. Also, Ecology reviewed the April 2000 EE/CA and concurred with EPA's proposal of a new well as a final NTC removal action for Skyline.

2. Potential For Continued State/Local Response

The DOH has also been involved in planning the removal actions (interim and final) at Skyline. Both the drinking water program and the health assessment program at DOH have concurred with the selection of a new well as a final NTC removal action for Skyline. EPA, DOH, Ecology and USACE will meet to define requirements, schedules, responsibilities and to generally coordinate the design and installation of the new well.

Congressional, legislative, local and county officials were kept informed of activities at Skyline through fact sheets, briefings and public meetings.

III. Threats to Public Health or Welfare or the Environment, and Statutory and Regulatory Authorities

The hazardous substances present at the Site are known or suspected to cause adverse health effects. The following discussion demonstrates that the conditions in the Skyline water system, pose a threat to public health or welfare, thereby warranting a removal action. Such an action will meet one or more criteria of Section 300.415(b)(2) of the NCP, 40 CFR 300.415(b)(2).

A. Threats to Public Health or Welfare

In June 1993, the DOH prepared a Preliminary Health Assessment for the Agency for Toxic Substances and Disease Registry (ATSDR). The Preliminary Health Assessment states that the Site has three pathways for human exposure to TCE: ingestion of drinking water, inhalation, and dermal absorption while showering. The Preliminary Health Assessment recommended that human consumption of drinking water exceeding the MCL for TCE be discontinued. Thus in March 1994, pursuant to an Administrative Order on Consent between EPA and the Port, bottled water was supplied by the Port.

In October 1998, DOH prepared a Health Consultation for their drinking water program. The Consultation concluded in addition to the above that "Mothers who are exposed to TCE in Skyline drinking water while pregnant may put their children at some risk for adverse developmental effects. A slight cancer increase was also estimated for those residents exposed over many years to the highest levels of TCE detected. The provision of bottled water to residents using Skyline water is not considered to be adequate to eliminate this potential health hazard since TCE can be breathed as a vapor and absorbed through the skin during normal water use such as clothes/dishwashing and bathing/showering." (see Attachment 4).

The 1998 Health Consultation was based on an assessment of risk that assumed that the westerly Skyline well was used for 8 months of the year while the easterly well water was blended with westerly well water for 4 months of the year. It should be noted that the water from both wells was not wholly blended because water from each well enters the distribution system at different points. Therefore, some Skyline residents received water wholly from the easterly well at concentrations of 32.0 ppb in exceeding the MCL. Until mid 1998, both wells were operational, with the westerly well operating throughout the year and the easterly well used when a higher demand for water occurred.

At present, only water from the westerly well is used, because the pump in the easterly well has broken off of its moorings, preventing use of the well. The TCE concentration in the westerly well fluctuates just above and below the MCL of 5.0 ppb; however, the provision of bottled water is protective for drinking water exposures to TCE and the current concentrations of TCE in the westerly well do not pose an unacceptable risk to residents via the dermal and inhalation routes while showering. However, since the MCL is being slightly exceeded in the westerly well, a permanent solution for the TCE contamination is still required.

Even with bottled water use, the non-drinking water exposures (bathing and showering) to easterly well water, when that well is operational, are unprotective of human health.

The threats to human health which existed when the Health Consultation was prepared in late 1998 and when EPA issued the TCRA Action Memorandum in April 1999 have changed. Exposure to the higher TCE contamination in the easterly well no longer exists since the well is no longer operational. In addition, DOH has informed EPA that because of the higher levels of TCE in the easterly well, DOH will not allow Skyline to use the easterly well for any use other than as an emergency backup (e.g., if the pump on the westerly well failed to operate). DOH does not consider increased demand or peak demand for water to constitute an emergency. Also, since July 1999, USACE has taken over the supply of bottled water to the Skyline community from the Port, thus mitigating a significant route of exposure and providing a supply of water that meets the MCL.

Risk calculations show that if the easterly well was to be used in the future for showering purposes, it would present an unacceptable risk to human health. Regarding the westerly well, risk calculations show that neither drinking water or non-drinking water exposure pose an unreasonable risk. However, since the MCL is being exceeded in the westerly well, action is necessary under CERCLA.

Thus, EPA believes that a non-time critical removal is necessary because: (1) not all residents have consistently used the bottled water; and (2) according to DOH, bottled water does not mitigate all significant exposures of concern if the community is exposed to water from the easterly well or if TCE concentrations increase in the westerly well. Other concerns include: (1) the Skyline water system users have been on bottled water for almost six years; and (2) bottled water was only meant to serve as a short-term, interim source of drinking water. Additionally, because the easterly well is broken, the Skyline Water Company does not have a functioning emergency source of water as required by DOH. Also, the Skyline Water Company can not meet peak water demand as required by DOH with only the westerly well functioning. Bottled water would not be sufficient to prevent a significant risk to public health if the easterly well were used on a consistent basis at the current TCE concentration levels in that well or if concentrations increased in the westerly well.

B. Threats to the Environment

No evidence was found to suggest that the contaminated Skyline well water poses

any serious threat to the environment.

IV. Endangerment Determination

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health or welfare, or the environment.

V. Proposed Actions and Estimated Costs

EPA evaluated seven removal alternatives for the Skyline Revised EE/CA. They are as follows:

Alternative 1: No Further Action
Alternative 2: Air Stripping
Alternative 3: Well-Head Granulated Activated Carbon Filtration
Alternative 4: Advanced Water Systems (AWS) Filtration
    Option A: O&M by Qualified Contractor
    Option B: O&M by Local Water Association
Alternative 5: Point-of-Entry Household Granulated Activated Carbon Filtration
Alternative 6: New Deeper Well
Alternative 7: Hookup to City Water

Alternative 6, the new deeper well, satisfies both threshold criteria, Overall Protection of Human Health and the Environment and Compliance with ARARs. A new well drilled into the deeper, clean aquifer, the c-Basalt, would provide drinking water that meets the MCL for TCE. A new well does not pose any adverse health or environmental risks.

Of the five Balancing Criteria EPA considers the three following criteria, Long-Term Effectiveness and Permanence, Implementability, and Cost to be more important for this EE/CA than the two other criteria, Reductions in Toxicity, Mobility and Volume Through Treatment and Short-Term Effectiveness because the purpose of this action is the replacement of a drinking water source, not remediation.

Regarding Long-Term Effectiveness and Permanence, EPA believes that the new well satisfies this criterion better than the other alternatives. Other alternatives either depend on long-term O&M by a licensed operator to ensure that the technology provides "clean" drinking water, or as in the case of the Hookup, permanent water rights are needed to ensure permanence of the water source. EPA was unable to obtain a commitment that permanent water rights could be obtained and transferred to the city of Moses Lake.

Concerning Implementability, the new well would be easier to implement than AWS Filtration System and the Hookup. Both of these Alternatives have time-consuming requirements to meet, or uncertainty associated with meeting prerequisites.

The costs of O&M for the new well are not expected to be significantly different than they were for O&M for the Skyline Wells No. 1 and 2. Assuming the purveyor will pass O&M costs along to users of the Skyline system, users' monthly water bills are not expected to increase unless the purveyor decides to change his rates for providing water.

Capital costs for new well are less than the treatment/filtration Alternative technologies but higher than the Hookup. However, considering total escalated costs (30 years at 2.5% inflation), new well is less expensive than all other Alternatives (except the No Action Alternative).

Please refer to the final Skyline Revised EE/CA for a detailed description of each alternative and a detailed comparison of the alternatives.

A. Proposed Action

EPA is proposing Alternative 6: New Deeper, Clean Skyline Well as the NTC removal action for the Skyline water system. EPA believes that this alternative best satisfies the evaluation criteria.

1. Proposed Action Description

A new well for Skyline will be drilled within the purveyors service area to the c-Basalt aquifer. EPA believes that water from the c-Basalt aquifer will provide drinking water that satisfies all federal and state requirements. This action will also include the identification of an emergency source of water, construction/retrofitting of a pumphouse and potential transfer of water rights withdraw point.

The DOH will continue to oversee purveyor compliance with federal and state requirements once the new well is operational.

The users of the Skyline water system overwhelmingly agree that the new well should be the final NTC removal action for Skyline. During the public comment period, EPA received 35 written comments approving of the new well as

the final NTC removal action for Skyline. EPA received no comment in favor of any other alternative for Skyline at the public meeting. The current purveyor of the Skyline water system also favors the new well as a final NTC removal action.

The DOH and Ecology both concur with EPA's proposed new well for Skyline.

2. Contribution to Remedial Performance

This final NTC removal action will provide Skyline users with drinking water that meets the MCL for TCE. Since this action will only discontinue pumping from the contaminated aquifer, not cleanup the contaminated aquifer, contaminated groundwater will be left in place. EPA and USACE are in the process of completing the RI/FS for the Moses Lake Superfund Site. During the RI/FS, potential sources of contamination will be evaluated, the plume will be defined and the potential for remediation of existing contaminated groundwater will be assessed.

3. Description of Alternative Technologies

This removal action does not involve the disposal of hazardous wastes, therefore, the alternative technology policy is not applicable.

4. EE/CA

The EE/CA, included as Attachments 2, describes, in detail, the alternatives considered for this NTC removal action and the alternative evaluation.

No significant comments were received during the public comment period. The Responsiveness Summary, included as Attachment 3, summarizes public outreach for this action.

5. Applicable or Relevant and Appropriate Requirements (ARARs)

Federal

The chemical-specific requirement applicable to the Moses Lake Wellfield Contamination Superfund site is an MCL of 5 µg/L TCE, set for public water supply systems under the federal Safe Drinking Water Act (40 CFR 141.11-141.16). The federal MCL is an ARAR applicable at each entry point to the system that is representative of each well after treatment.

State

The chemical-specific requirement applicable to the Moses Lake Wellfield

Contamination Superfund site is an MCL of 5 µg/L TCE, set for public water supply systems under the Washington State regulations (WAC 173-340-720). The state ARAR is applicable at the point of entry to the distribution.

The Superfund site is located within the Quincy groundwater management area (WAC 173-100 and WAC 173-124). Total withdrawals from the deep management unit of this aquifer are limited to 97,901 acre-feet per year, unless the Washington Department of Ecology (Ecology) determines otherwise.

WAC 173-160 regulates well location, installation, testing, and decommissioning requirements.

Covenants would be required to maintain land use restrictions in compliance with state wellhead protection laws (WAC 246-290-135).

WAC 246-290 is Washington state's primary governing regulation for public drinking water supplies. The EPA has granted Washington State the authority to implement a program at least as stringent as the federal Safe Drinking Water Act program. These regulations provide detailed requirements for design and operation of public water systems. WAC 246-290-250(4) requires that well and spring sources have continuous disinfection systems that meet the operational requirements of WAC 246-290-451 (3) and (4) (these are requirements for chlorine disinfection). Disinfection will be required for pump-and-treat systems. However, WAC 246-290-250(4) states that WDOH may modify the disinfection requirement; for example, the system could use ultraviolet (UV) radiation or ozonation to provide an equivalent means of disinfection (Torpie 2000).

WAC 173-154 requires that actions protect the quality of the lower aquifer; e.g., wells must be constructed so that there is no cross-connection of the aquifers.

Other Washington State Requirements

Public and private water systems serving more than 4 households are subject to certain WDOH and Ecology requirements. Requirements may be dependent on the type of water system to be put in use. For example, a water system using a well would be subject to WDOH and Ecology requirements for wellhead protection, well construction, etc. Of these requirements, some are

ARARs and are identified above. Other requirements are considered by EPA to be procedural and therefore not ARARs but instead items that EPA looks at when developing and recommending removal alternatives. EPA may consider certain procedural requirements when evaluating and selecting of a certain technology. EPA may apply certain state procedural requirements to ensure that the selected remedy is operated and maintained in a manner that is protective of public health and the environment.

Potential WDOH and Ecology procedural requirements include the following:

Operator Certification. WDOH requires that public drinking water system operators have certification appropriate to their level of responsibility (WAC 246-292). A Water Distribution Manager is required for operation of a Group A water system with at least 100 services in use at any one time or a purification plant using complex filtration technology. A Water Treatment Plant Operator is required for operation of a purification plant using complex filtration technology. A Basic Treatment Plant Operator is required for a purification plant using basic filtration technology or an unfiltered Group A surface water or "GWI" system with less than 100 services in use at any one time (a "GWI" system refers to a system with groundwater under the direct influence of surface water).

Financial Viability. The Skyline community has expressed interest in purchasing and operating its public drinking water system. Therefore, the requirements of RCW 70.119A are pertinent to this action. This statute states that the system must have the financial resources to ensure safe and reliable service to its customers.

Contractor Licensing. WAC 173-162 governs the licensing of well installation contractors.

6. Project Schedule

EPA estimates that the design and installation of the new well will take nine to twelve months from the commitment of PRPs to perform the work. The nine to twelve month period is primarily based on estimates from DOH and Ecology regarding the required review and approval process by both state

agencies. DOH and Ecology have committed to a fast track review and approval process. EPA believes that their involvement in the review and comment process is beneficial to both EPA and USACE because of their extensive experience.

As soon as USACE agrees to design and install the new well, EPA, Ecology and DOH will meet with USACE to define requirements, responsibilities, schedules, etc. EPA will coordinate the NTC removal action.

B. Estimated Costs

This removal action will be a PRP financed action. According to informal discussions with USACE, it is likely they will conduct the design, construction and installation of the new well and other associated projects such as well abandonment according to informal discussion with them. The total project capital cost is $500,000. The annual O&M is estimated to be $18,000 to be paid by the purveyor.

VI. Expected Impact Should Action Be Delayed or Not Taken

Failure to conduct the final NTC removal action will result in continued exposure of Skyline water system users to TCE contamination. While the delivery of bottled water is provided as an interim measure, this action is voluntary and does not address the inhalation and dermal exposure pathways while bathing.

VII. Outstanding Policy Issue

USACE has informed EPA that USACE does not believe that NTC removal actions are covered by the IAG. Region 10 Office of Regional Counsel agrees that the IAG could be "read that way". EPA plans to document roles, responsibilities and schedule with USACE, and EPA hopes this NTC removal action will be done by USACE either under the existing IAG or through a stand-alone AOC with USACE. If USACE either refuses to perform this NTC removal action or cannot obtain funding to do so, then EPA will either need to conduct the action, as a Fund-financed removal, or use its enforcement tools to force USACE, the Port and Boeing to perform the NTC removal action.

VIII. Enforcement

On July 16, 1993, EPA sent Removal Notice Letters to four parties to notify them of potential liability with regard to Skyline, and to solicit their involvement in both an interim and

final removal action at Skyline. These parties included the U.S. Air Force, the Port, the Boeing Company, and Norm Vehrs (previous owner and operator of Skyline Water Company). Boeing declined to participate in the removal action. The Air Force provided a good faith offer to EPA, but EPA could not accept the terms of the offer.[1]

On March 31, 1999, EPA and USACE approved an Interagency Agreement (IAG) that included removal provisions whereby USACE agreed to perform removal actions as required by EPA. EPA is pursuing this action pursuant to the IAG.

IX. Recommendation

This decision document represents the selected removal action for the Moses Lake Wellfield Contamination Superfund Site, in Moses Lake, Washington, developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based on the administrative record for the Site.

Conditions at the site meet the NCP section 300.415(b)(2) criteria for a removal and I recommend your approval of the removal action. This is a PRP-financed action.

I approve the removal action recommended in Paragraph V.

_____ Date:_____

I do not approve the submitted recommendations for the following reasons, and I direct the following actions to be taken:

_____ Date:_____

Attachments

[1] USACE has received the authority and funding to represent the Armed Services at Formally Used Defense Sites (FUDs). The Moses Lake Site is a FUDs.

cc: Lynda Priddy
Dean Ingemansen
Siri Nelson
Bill Graney
Howard Blood
Site File
Administrative Record

I approve the removal action recommended in Paragraph V.

_____ Date:_____

I do not approve the submitted recommendations for the following reasons, and I direct the following actions to be taken:

_____ Date:_____

CONCURRENCE					
SIGNATURE					
SURNAME	Ingemansen	Kowalski	Priddy	Croxton	Field
DATE					

CONCURRENCE					
SIGNATURE					
SURNAME	Pirzadeh				
DATE					